

Appl. No. 10/643,358  
Amdt. dated 09<sup>th</sup> August 2005  
Reply to Office action of 11-Apr-05

**Listing of Claims:**

1. (Currently amended) A segmented plate adapted for assembly within a confined area of a deaerator tank having a limited access thereto, comprising:

(a) the plate, as assembled within the confined area of the deaerator tank, having an exterior perimeter, an aperture having an inner perimeter, a plurality of generally rigid plate-sections comprising a first, second, and third plate-section, and

extending at least partially along adjacent boundaries of said plate-sections having been adjacently arranged, is a self-lock seam; and

(b) each of said plate-sections sized smaller than the access to permit passage therethrough for the assembly; and

(c) said adjacent boundaries comprise a third edge-boundary of said third plate-section adjacent a first edge-boundary of each of said first and second plate-sections.

2. (Currently amended) The segmented plate of claim 1, having been assembled within the confined area having the limited access, and wherein:

(a) said inner perimeter comprises an inward-boundary of at least each of [[a]] said first and second of said plate-sections;

(b) a third and fourth plate-section of said plurality of plate-sections each comprise a respective third and comprises a fourth edge-boundary; and

(c) said adjacent boundaries further comprise  
~~said third edge boundary adjacent a first edge boundary of each of said first and second plate sections, and~~

~~said fourth edge-boundary adjacent a second edge-boundary of each of said first and second plate-sections.~~

3. (Currently amended) The segmented plate of claim 1, having been assembled within the confined area having the limited access, and wherein:

(a) said inner perimeter comprises a first curved inward-boundary of [[a]] said first of said plate-section[[s]] and a second curved inward-boundary of [[a]] said second of said plate-section[[s]];

(b) first and second collar pieces are arranged, in water-impermeable fashion, adjacent said first and second curved inward-boundaries; and

(c) said first and second collar pieces are further arranged around a periphery of a central sub-assembly.

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4. (Currently amended) The segmented plate of claim 3 wherein:

- (a) the confined area comprises a chamber of [[a]] the deaerator tank and the assembled segmented plate is secured to enclose a tray assembly;
- (b) said periphery of said central sub-assembly is generally circular and said central sub-assembly comprises a spray nozzle; and
- (c) first and second top supports are arranged around said periphery and around said first and second collar pieces.

5. (Currently amended) The segmented plate of claim 4 wherein:

- (a) a ~~third and fourth~~ plate-section of said plurality of plate-sections each ~~comprise a respective third and~~ comprises a fourth edge-boundary;
- (b) said adjacent boundaries further comprise  
~~said third edge boundary adjacent a first edge boundary of each of said first and second plate sections, and~~  
~~said fourth edge-boundary adjacent a second edge-boundary of each of said first and second plate-sections; and~~
- (c) sandwiched between said first collar piece and said first top support are: a portion of said third edge-boundary, a portion of each of said adjacent first edge-boundaries of said first and second plate-sections, a portion of said first curved inward-boundary, and a portion of said second curved inward-boundary.

6. (Currently amended) The segmented plate of claim 1, having been assembled within the confined area having the limited access, and wherein:

- (a) said aperture comprises an opening in said exterior perimeter such that a portion of said exterior perimeter is common with said inner perimeter;
- (b) said inner perimeter comprises an [[edge]] inward-boundary of [[a]] said first ~~of said~~ plate-section[[s]]; and
- (c) a first collar piece is arranged, in water-impermeable fashion, adjacent said ~~first edge~~ inward-boundary; and
- (d) said first collar piece is further arranged around at least a portion of a periphery of a sub-assembly having a vent passage therethrough.

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7. (Currently amended) The segmented plate of claim 6 wherein:

- (a) the confined area comprises a chamber of [[a]] the deaerator tank;
- (b) a ~~third and fourth~~ plate-section of said plurality of plate-sections each ~~comprise a respective third and~~ comprises a fourth edge-boundary; and
- (c) said adjacent boundaries further comprise
  - ~~said third edge-boundary adjacent a first edge-boundary of each of said first and second plate-sections, and~~
  - ~~said fourth edge-boundary adjacent a second edge-boundary of each of said first and second plate-sections.~~

8. (Currently amended) The segmented plate of claim 1 wherein: A segmented plate adapted for assembly within a confined area, comprising:

- (a) the plate, as assembled, having
  - an exterior perimeter,
  - an aperture having an inner perimeter,
  - a plurality of generally rigid plate-sections, and
  - extending at least partially along adjacent boundaries of said plate-sections having been adjacently arranged, is a self-lock seam;
- [[(a)]] (b) the confined area comprises a chamber of a deaerator tank;
- [[(b)]] (c) said self-lock seam comprises an interlocking of an U-shaped edge of each said plate-section adjacently arranged;
- [[(c)]] (d) said generally rigid plate-sections are made of a material thermally expandable upon exposure to a range of temperatures to which the confined area may be exposed; and
- [[(d)]] (e) a flexible barrier, made of a material having resiliency and adapted to produce a generally water-impermeable seal, selected from the group consisting of a gasket tape, a joint sealant, a plastic adhesive, a caulking compound, weather stripping, and a high temperature sealant, is interposed between said interior inner perimeter and at least a portion of a periphery of a sub-assembly having a spray nozzle.

9. (Currently amended) The segmented plate of claim 8 wherein:

- (a) said inner perimeter comprises a first [[edge]] inward-boundary of a first plate-section of said plurality of plate-sections;
- (b) said first [[edge]] inward-boundary is arranged, in water-impermeable fashion, adjacent said periphery of said sub-assembly; and

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(c) said material for said generally rigid plate-sections is selected from the group consisting of a metal, an alloy, and a ceramic.

10. (Currently amended) A segmented plate ~~adapted for assembly~~ assembled within a chamber of a deaerator tank having a limited access thereto, comprising:

(a) the plate, as assembled within the chamber and secured to enclose a tray assembly, having

an exterior perimeter,

a plurality of generally rigid plate-sections comprising a first, second, and third plate-section, and

extending at least partially along adjacent boundaries of said plate-sections having been adjacently arranged, is a self-lock seam; and

(b) each of said plate-sections sized smaller than the access to permit passage therethrough for the assembly; and

(c) said adjacent boundaries comprise a third edge-boundary of said third plate-section adjacent a first edge-boundary of each of said first and second plate-sections.

11. (Currently amended) The segmented plate of claim 10, ~~having been assembled and secured to so enclose said tray assembly~~, further comprising:

(a) an aperture having an inner perimeter comprising a first [[edge]] inward-boundary of [[a]] said first of said plate-section[[s]]; and

(b) a first collar piece arranged, in water-impermeable fashion, adjacent said first [[edge]] inward-boundary; and

(c) said first collar piece is further arranged around a periphery of a sub-assembly having a vent passage therethrough.

12. (Currently amended) The segmented plate of claim 11 wherein:

(a) said inner perimeter further comprises a second [[edge]] inward-boundary of [[a]] said second of said plate-section[[s]]; and

(b) a second collar piece is arranged, in water-impermeable fashion, adjacent said second [[edge]] inward-boundary;

(c) said second collar piece is further arranged around said periphery of said sub-assembly; and

(d) said sub-assembly further comprises a spray nozzle.

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13. (Currently amended) [[The]] A segmented plate of claim 10, having been assembled, and wherein: within a chamber of a deaerator tank, comprising:

(a) the plate, as assembled, having

an exterior perimeter,

a plurality of generally rigid plate-sections, and

extending at least partially along adjacent boundaries of said plate-sections having been adjacently arranged, is a self-lock seam;

[(a)] (b) said exterior perimeter is of a final geometric size larger than may pass through the limited access;

[(b)] (c) said self-lock seam comprises an interlocking of an U-shaped edge of each said plate-section adjacently arranged;

[(c)] (d) said exterior perimeter is of a shape selected from the group consisting of an oval, a circle, a polygon, and an irregular shape; and

[(d)] (e) a flexible barrier, made of a material having resiliency and adapted to produce a generally water-impermeable seal, selected from the group consisting of a gasket tape, a joint sealant, a plastic adhesive, a caulking compound, weather stripping, and a high temperature sealant is interposed between said exterior perimeter and a tray enclosure.

14. (Currently amended) The segmented plate of claim 13:

(a) further comprising an aperture having an inner perimeter comprising an inward-boundary of each of a first and second plate-section of said plurality of plate-sections, said inner perimeter is of a shape selected from the group consisting of an oval, a circle, a polygon, and an irregular shape;

(b) a third and fourth plate-section of said plurality of plate-sections each comprise a respective third and fourth edge-boundary; and

(c) said adjacent boundaries comprise

    said third edge-boundary adjacent a first edge-boundary of each of said first and second plate-sections, and

    said fourth edge-boundary adjacent a second edge-boundary of each of said first and second plate-sections.

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**15. (Currently amended)** A process for assembling a segmented plate within a confined area of a deaerator tank having a limited access thereto, comprising:

- (a) passing each of a plurality of generally rigid plate-sections through the limited access of the confined area of the deaerator tank;
- (b) adjacently arranging at least [[two]] a first, second, and third plate section of said plurality of plate-sections, by interlocking a U-shaped edge of said two plate-sections generally along adjacent boundaries thereof, said step of adjacently arranging to comprise arranging a third edge-boundary of said third plate-section adjacent a first edge-boundary of each of said first and second plate-sections; and
- (c) constructing so assembling the segmented plate whereby a final geometric size of an exterior perimeter thereof is larger than may pass through the limited access.

**16. (Currently amended)** The process of claim 15:

- (a) wherein said step of adjacently arranging further comprises
  - ~~arranging a third edge boundary of a third of said plate sections adjacent a first edge boundary of each of a first and second of said plate sections, and~~
  - arranging a fourth edge-boundary of a fourth plate section of said plurality of plate-sections adjacent a second edge-boundary of each of said first and second plate-sections; and
- (b) further comprising the step of arranging first and second collar pieces, in water-impermeable fashion, adjacent a respective first and second inward-boundary of each said first and second plate-sections.

**17. (Original)** The process of claim 16 further comprising the steps of:

- (a) arranging said collar pieces, each of which comprises a curvature, around a periphery of a central sub-assembly having a spray nozzle therethrough;
- (b) arranging first and second top supports around said periphery of said central sub-assembly sandwiching a portion of said first and second inward-boundaries of each said first and second plate-sections between said first and second top supports and said first and second collar pieces; and
- (c) securing said first and second top supports, effecting a water-impermeable seam.

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**18. (Currently amended) The process of claim 16:**

(a) wherein the confined area comprises a chamber of [[a]] the deaerator tank; and said step of arranging first and second collar pieces further comprises, first, applying a flexible barrier made of a material selected from the group consisting of a gasket tape, a joint sealant, a plastic adhesive, a caulking compound, weather stripping, and a high temperature sealant, to said respective inward-boundaries, and then so arranging said collar pieces to produce a generally water-impermeable seal; and

(b) further comprising the step of securing the assembled sectioned plate to enclose a tray assembly adapted for use in carrying out deaerating.

**19. (Currently amended) The process of claim 15:**

(a) wherein said step of adjacently arranging further comprises arranging ~~a third edge boundary of a third of said plate sections adjacent a first edge boundary of each of a first and second of said plate sections~~, said first plate-section oriented with a first inward-edge-boundary creating an opening in said exterior perimeter, and

(b) further comprising the steps of arranging a collar piece adjacent said first inward-edge-boundary and around at least a portion of a periphery of a sub-assembly having a spray nozzle.

**20. (Currently amended) The process of claim 15:**

(a) wherein said step of adjacently arranging further comprises

~~arranging a third edge boundary of a third of said plate sections adjacent a first edge boundary of each of a first and second of said plate sections;~~

arranging a fourth edge-boundary of a fourth plate section of said plurality of plate-sections adjacent a second edge-boundary of each of said first and second plate-sections, and

said first and second plate-sections oriented with a respective first and second curved inward-boundary creating an aperture within the segmented plate; and

(b) further comprising the step of sandwiching, between a first collar piece and a first top support, a portion of said third edge-boundary, a portion of said first curved inward-boundary, and a portion of said second curved inward-boundary.

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**21. (Currently amended)** A segmented plate adapted for assembly within a confined area having a limited access thereto, comprising:

- (a) the plate, as assembled, having
  - an exterior perimeter,
  - an aperture having an inner perimeter,
  - a plurality of generally rigid plate-sections comprising a first, second, third, and fourth plate-section, and
    - interposed between and along adjacent boundaries of said plate-sections having been adjacently arranged, is a flexible barrier; and
- (b) each of said plate-sections sized smaller than the access to permit passage therethrough for the assembly; and
- (c) said adjacent boundaries comprise
  - a third edge-boundary of said third plate-section adjacent a first edge-boundary of each of said first and second plate-sections, and
  - a fourth edge-boundary of said fourth plate-section adjacent a second edge-boundary of each of said first and second plate-sections.

**22. (Currently amended)** The segmented plate of claim 21 wherein:

- (a) the confined area comprises a chamber of a deaerator tank;
- (b) ~~a first, second, third and fourth of said plate-sections each comprise a respective third and fourth edge boundary;~~
- (c) ~~said adjacent boundaries comprise~~
  - ~~said third edge boundary adjacent a first edge boundary of each of said first and second plate-sections, and~~
  - ~~said fourth edge boundary adjacent a second edge boundary of each of said first and second plate-sections; and~~
- [(d)] (b) said flexible barrier is made of a material having resiliency and adapted to produce a generally water-impermeable seal, selected from the group consisting of a gasket tape, a joint sealant, a plastic adhesive, a caulking compound, weather stripping, and a high temperature sealant.